PRS50

EFFECTIVENESS OF TEXT MESSAGE REMINDERS IN ASTHMA MEDICATION ADHERENCE: A SYSTEMATIC REVIEW

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OBJECTIVES: Cell phone text messaging reminders, via the Short Messaging Service (SMS), offers the promise of an efficient technology for the management of chronic diseases, such as asthma. This review aims to evaluate the effectiveness of text message reminders on adherence to asthma medication by comparing adherence among individuals who received text message medication reminders and those who did not. **METHODS:** A systematic review of the literature was conducted to identify published studies. Literature search was restricted to English language and no restrictions were imposed on the year and country of publication. Medication adherence was the primary measure of intervention in eligible studies. Eligible studies had to have a control group, and had to assess the impact of text message reminders on medication adherence. **RESULTS:** Of the 64 retrieved articles, 4 fulfilled the inclusion criteria. Three of these studies were randomized control trials and one was a non-randomized control trial. Three of the studies found text message reminders improved medication adherence among individuals who received them when compared to those who did not. **CONCLUSIONS:** This review adds to the body of literature reviewing the effectiveness of widely available and instant technologies in the management of disease. Our findings suggest that text message reminders can help improve medication adherence among individuals with asthma. Future studies are needed to strengthen the evidence on the effectiveness of text message reminders, patient accessibility to this technology, and its acceptance by health care providers.

PRS51

TREATMENT ADHERENCE IN PATIENTS WITH ASTHMA TAKING LEUKOTRIENE MODIFIERS VERSUS THOSE TAKING INHALED CORTICOSTEROIDS

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OBJECTIVES: To evaluate patient-reported treatment adherence in patients with asthma between two classes of asthma treatments, inhaled corticosteroids (IC) and leukotriene modifiers (LM). **METHODS:** Participants were identified via MediGuard, a novel digital patient platform where patients enroll online via the internet to be part of a digital patient community. All information was obtained through participant self-report. Between 2011 through 2013, MediGuard members with asthma were invited to complete the Medication Adherence Report Scale (MARS), a patient reported outcome (PRO) instrument that measures aspects of medication adherence. MARS scores for high versus low adherence (i.e., scores ≥20 out of 25 indicate high adherence) were compared between the IC and LM groups using logistic regression analyses, adjusting for demographic variables, disease severity and number of concomitant medications. **RESULTS:** A total of 365 (IC) and 164 (LM) patients participated. Age was similar between groups (mean [SD] = 58.7 [13.3] years vs. 57.7 [10.7] for IC and LM, respectively); and both groups were predominantly female (73.8% for IC; 79.0% for LM). Disease severity and number of concomitant medications taken were similar between IC and LM groups. Ninety-two percent (n=151) of the LM group had high levels of adherence according to the MARS versus 73% (n=265) of the IC group. In multivariable analyses, patients taking LM had 4.6 (95% CIs: 2.5-8.5) times the odds of having high adherence to treatment versus patients taking IC. **CONCLUSIONS:** These results suggest higher adherence with oral versus inhaled agents in asthma after controlling for potential confounders. Further exploration regarding why adherence differs between these classes is warranted. In addition, investigations into how adherence may be enhanced and the impact of low adherence on treatment effectiveness should be performed. Providing patients with information on adherence could help inform patients' treatment decisions.

PRS52

RESPONSIVENESS OF THE EQ-5D INDEX AND VISUAL ANALOG SCALE TO CHANGES IN LUNG FUNCTION IN PATIENTS WITH CYSTIC FIBROSIS

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OBJECTIVES: This post-hoc analysis examined the relationship between the EQ-5D index and the visual analog scale (VAS), and pulmonary function measured using percent predicted forced expiratory volume in 1 second (FEV_1), in patients with cystic fibrosis (CF) participating in the STRIVE clinical trial. **METHODS:** In a 48-week randomized, placebo-controlled study of ivacaftor in patients aged ≥12 years with CF and a *G551D-CFTR* mutation, the EQ-5D (index and VAS) and FEV_1 were measured directly from patients at baseline, 15 days, 8 weeks, and every 8 weeks thereafter. The EQ-5D index was calculated using the U.S. preference-based algorithm. Pooling assessments and treatments over time, measures were compared among patients with no (FEV_1≥90%), mild (70-<90%), moderate (40-<70%), and severe (<40%) lung dysfunction. Ceiling effects (EQ-5D index=1 or VAS=100) were also assessed. **RESULTS:** 121 patients contributed 1214 observations (FEV_1: 157 no lung dysfunction, 419 mild, 572 moderate, 66 severe). Mean index/VAS scores decreased with worsening lung function (no lung dysfunction: 0.967/90.0; mild: 0.949/84.5; moderate: 0.918/75.1; severe: 0.881/66.4). The EQ-5D index and VAS were at the ceiling in 67.5% (no lung dysfunction: 80.9%; mild: 73.3%; moderate: 62.1%; severe: 45.5%) and 5.6% (no lung dysfunction: 15.9%; mild: 6.9%; moderate: 2.4%; severe: 0.0%) of observations, respectively. **CONCLUSIONS:** In a clinical study of patients 12 years of age and older with CF and a G551D-CFTR mutation, the EQ-5D index and VAS demonstrated monotonic decreases with decreasing FEV_1. The EQ-5D VAS was more discriminating of CF lung disease severity than the index score. Ceiling effects were high, particularly for the EQ-5D index and for patients with no lung dysfunction or mildly affected lung function. Both instruments provide complementary health status information; however, the use of the EQ-5D index alone may limit characterization of disease burden and health gains in cost-effectiveness analyses of CF therapies.

PRS53

AMONG THOSE DIAGNOSED WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN URBAN CHINA, SMOKING IS ASSOCIATED WITH DECREASED HEALTH STATUS AND WORK PRODUCTIVITY AND INCREASED HEALTH CARE RESOURCE USE

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OBJECTIVES: Chronic obstructive pulmonary disease (COPD) is prevalent among adults in China and widespread among smokers. This study assessed health outcomes of COPD-diagnosed smokers vs. never smokers in urban China. **METHODS:** National Health and Wellness Survey (NHWS) 2010 and 2012 China data were analyzed. NHWS is a mixed-methodology, Internet-based, nationwide survey of adults (18+ years) stratified by gender and age to represent the demographic composition of urban China. Respondents self-reporting diagnosis with COPD were categorized as smoking (including [non]smokers in process of quitting) or never having smoked. Respondents reported on health status: SF-36v2-based Mental (MCS) and Physical (PCS) Component Summary scores and SF-6D health utilities; productivity loss: Work Productivity and Activity Impairment questionnaire-based metrics; and resource utilization in the past six months. Regression modeling assessed health outcomes as a function of smoking, controlling for demographics, time since diagnosis, and comorbidities. **RESULTS:** Among 1,421 diagnosed with COPD, 51.6% never smoked and 35.5% smoked (of whom, 43.8% were attempting to quit). Smokers vs. never smokers were more likely to be male (82.4% vs. 36.4%, respectively), recently diagnosed with COPD (i.e., 8.56 vs. 11.09 years), employed, wealthier, partnered, overweight, and with higher comorbid risk (all $p<0.05$). Adjusting for covariates, smokers vs. never smokers had lower health utilities (-0.022 points, $p<.001$), PCS (-1.26 points, $p=.043$), and MCS (-2.85 points, $p<.001$), and higher rates of absenteeism (44.7% greater, $p=.002$), impairment while working (22.4%, $p<.001$), overall work impairment (22.3%, $p<.001$), activity impairment (16.5%, $p=.002$), emergency room visits (65.6%, $p<.001$), hospitalizations (142.9%, $p<.001$), and provider visits (23.0%, $p=.038$). On average, impairments were greater and more consistently significant among females. **CONCLUSIONS:** Even after adjusting for significant baseline differences, smokers vs. never smokers with COPD in urban China experienced poorer health outcomes, suggesting the importance of secondary prevention of COPD in this population, as well as smoking cessation interventions.

PRS54

VALIDATION OF THE HUNTINGTON QUALITY OF LIFE INSTRUMENT IN UNITED STATES

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OBJECTIVES: The Huntington Quality of Life Instrument (H-QoL-I) is a self-administered instrument developed specifically to measure the quality of life of patients affected by the Huntington's disease (HD). It was originally developed and validated for France and Italy. This study aimed to validate the US version of H-QoL-I. **METHODS:** The H-QoL-I was composed of 11 items organized into 3 dimensions: motor functioning (4), psychology (4) and socializing (3). Item response can be chosen among 5 possibilities, depending on frequency or intensity. The instrument was translated forwards and backwards by native speakers. A survey was conducted with 170 patients. Internal validity was tested, assessing internal consistency, correlation matrix using item/dimension correlation and factorial structure. External validation, using Pearson's correlation, was performed versus clinical dimension scores (motor, functional, temper, depression/anxiety), and the EuroQoL 5D (EQ-5D). **RESULTS:** The mean (± standard deviation) age of patients was 49 (±14) years and 68% were female. The H-QoL-I showed a good reliability despite the item reduction (Cronbach's alpha coefficients were higher than 0.8 for the 3 dimensions). Factor analysis explained 79% of the total variance and demonstrated the same structure as the French and Italian version. Internal consistency was satisfactory for all dimensions, ranging from 0.62 to 0.90. The correlation of each item with its associated dimension was higher than its correlation with the other dimensions (item discriminate validity). The external validity supported the anticipated correlations between each dimension and the clinical and functional dimensions of the Huntington Clinical Self-Reported Instrument (H-CSRI) and the EQ-5D index score. The correlation between total H-QoL-I score and EQ-5D index score was 0.76. **CONCLUSIONS:** The H-QoL-I, which has sound psychometric properties, is a valid instrument for measuring the disease specific Health Related Quality of Life (HRQoL) of patients with HD in the US.

PRS55

VALIDATION OF THE HUNTINGTON CLINICAL SELF-REPORTED INSTRUMENT (H-CSRI) IN UNITED STATES

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OBJECTIVES: Huntington's disease (HD) is a chronic degenerative disorder that causes movement abnormalities, cognitive deterioration and affective disturbances. The Huntington Clinical Self-Reported Instrument (H-CSRI) is the first clinimetric patient assessed scale for patients with HD. It was originally developed and validated for France and Italy and then for Spain. The objective of this study is to adapt and validate the H-CSRI for US. **METHODS:** The H-CSRI, previously validated questionnaire, included three subscales assessing: the motor (13 five point Likert-type items in 4 dimensions), functional (7 Yes/No questions) and behavioural ability (13 five point Likert type items in 4 dimensions). It was translated forwards and backwards by native speakers and then reviewed by local clinicians and adjusted as required. 170 patients completed the questionnaire. While face validity was studied